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RESEARCH

Incidência de transmissão vertical do HIV entre gestantes soropositivas cadastradas em um serviço de referência regional

Incidence of HIV vertical transmission among HIV-positive pregnant women treated at a regional reference service

Incidencia de transmisión vertical del vih entre las gestantes seropositivas registradas en un servicio de referencia regional

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ABSTRACT

Objective: surveying and to characterizing the incidence of HIV vertical transmission, from 2004 to 2013, among pregnant women accompanied by a referral service in STD, HIV/AIDS and Viral Hepatitis in the countryside of Minas Gerais. **Method:** it is a quantitative descriptive study. Data were obtained from the medical records of women infected by HIV registered in the unit. For analysis, there was used the simple descriptive statistics. It was approved by the Research Ethics Committee of the Higher Education Foundation of Passos (FESP), with CAAE: 28399314.8.0000.5112. **Results:** of the 33 pregnancies treated at the service, 60,6% (20) knew the diagnosis before pregnancy and 39,4% (13) of them obtained it during the prenatal period. In the first group there was no vertical transmission, while in the second group, there was one case, 8%. **Conclusion:** it is recommended that pregnant women do the test still in the first three months of pregnancy, because late diagnosis makes difficult doing prophylaxis. **Descriptors:** Vertical infectious disease transmission, HIV, Communicable disease prevention, Maternal-child health services.

RESUMO

Objetivo: levantar e caracterizar a incidência de transmissão vertical do HIV, no período de 2004 a 2013, entre gestantes acompanhadas por serviço de referência em DST, HIV/AIDS e Hepatites Virais no interior de Minas Gerais. **Método:** estudo quantitativo descritivo. Os dados foram obtidos em prontuários de mulheres soropositivas para o HIV. Para análise utilizou-se a estatística descritiva simples. Aprovado pela Comissão de Ética em Pesquisa da Fundação de Ensino Superior de Passos (FESP), com CAAE: 28399314.8.0000.5112. **Resultados:** das 33 gestações acompanhadas no serviço, 60,6% (20) conheciam o diagnóstico antes da gravidez e 39,4% (13) o obtiveram durante o pré-natal. No primeiro grupo não houve transmissão vertical, enquanto que no segundo houve um caso, 8%. **Conclusão:** recomenda-se realização de teste ainda no primeiro trimestre gestacional, pois o diagnóstico tardio dificulta a profilaxia. **Descritores:** Transmissão vertical de doença infecciosa, HIV, Prevenção de doenças transmissíveis, Serviços de saúde materno-infantil.

RESUMEN

Objetivo: conocer y caracterizar la incidencia de la transmisión vertical del VIH, en el período 2004-2013, entre mujeres embarazadas acompañadas en un servicio de referencia de enfermedades de transmisión sexual, VIH/SIDA y la hepatitis viral en Minas Gerais. **Método:** este es un estudio cuantitativo descriptivo. Los datos se obtuvieron de los registros médicos de mujeres infectadas por el VIH registradas en la unidad. Para el análisis, se utilizó la estadística descriptiva simple. Aprobado por el Comité de Ética en Investigación de la Fundación de la Educación Superior de Passos (FESP), CAEE: 28399314.8.0000.5112. **Resultados:** de las 33 gestaciones atendidas en el servicio, el 60,6% (20) fueron de mujeres que conocían el diagnóstico antes del embarazo y el 39,4% (13) de mujeres que sólo lo obtuvieron durante el período prenatal. En el primer grupo no hubo ninguna transmisión vertical, mientras que en el segundo hubo un caso, 8%. **Conclusión:** se recomienda la prueba en el primer trimestre del embarazo, ya que el diagnóstico tardío dificulta el profilaxis. **Descriptores:** Transmisión vertical de enfermedad infecciosa, VIH, Prevención de enfermedades transmisibles, Servicios de salud materno-infantil.

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INTRODUCTION

Infection by HIV - Human Immunodeficiency Virus - and its evolution to Acquired Immune Deficiency Syndrome (AIDS), today, over 30 years after the discovery of the first cases of the disease, it continues to claim victims.

It is probable that in 2012, 35,3 million people were living with HIV worldwide and that only in 2013, more than 2,3 million victims have been infected.[1] Among them, it is observed that the proportion of HIV-infected women grows quickly.[2]

This fact leads to an important point: HIV infection in pregnant women. This is because, in addition to HIV be transmitted by the exchange of bodily fluids such as blood, vaginal secretions and semen, the infection can also occur in HIV-positive mothers to their babies during pregnancy, childbirth or breastfeeding, and this type of transmission It gives the name of vertical transmission.[3]

UNICEF points out that most of the children affected by HIV was the victim of this type of transmission. In 2012, for example, vertical transmission was the form of exposure to HIV in 99,6% of children under 13 years old.[4-5] A given relevant in this context is that, according to estimates, there are about 240.000 women age reproductive who have the AIDS virus and that most do not know it was HIV-positive.[5]

In Brazil, the HIV case detection rate in pregnant women in 2012 amounted to 2,4 cases per 1000 living born.[4]

In a pregnant woman, when there is no type of treatment, the rate of vertical transmission of HIV to the baby can be of 20%.[6] Among the main factors associated with the risk of such transmission, it highlights the high viral load and low counts of T $CD4^+$ lymphocytes, as well as the prolonged rupture of the amniotic membranes.[7] The type and subtype of the virus can also be directly related to this rate of transmission.[8]

In this context, we emphasize the vulnerability of children infected. Without proper treatment, many will die prematurely. For example, among all AIDS cases that have been reported worldwide in 2006, more than 500.000, which represents almost 2% of all reported cases occurred in children, by nearly 400.000 deaths.[9]

In order to change this reality, since October 1996, the National Program today STD/AIDS and Viral Hepatitis of the Ministry of Health (MOH) adopted the indication of prevention of vertical transmission for all HIV-positive pregnant women and HIV exposed newborns.[4] In this regard, we emphasize that Brazil was one of the first countries to carry out the implementation of such measures prophylactic.[8]

However, for this indication might be fulfilled, screening is recommended for HIV in the first trimester of pregnancy. However, when the mother has no access to adequate pre-natal diagnosis may occur in the third quarter or even at the time of birth.[10] This is because approximately 65% of cases of vertical HIV transmission occur during labor and childbirth itself, and the remaining 35% occur in utero, especially in the last weeks of pregnancy, although there is the additional risk of postnatal transmission through maternal breastfeeding.[11]

Due to all the efforts of the Department of STD/AIDS and Viral Hepatitis the Ministry of Health for the prophylaxis of vertical transmission of HIV, there was a significant decrease of these cases, but in recent years, there is still a stabilization in unsatisfactory levels, around 500 cases/year in children under five years of age.[4,12]

However, thanks to advances in science as opposed to the evolution of this epidemic, as well as public awareness, it can reduce the risk of the baby's infection to levels below 1%. Therefore, it is necessary for pregnant women, as all involved in the comprehensive health care of pregnant women; follow all recommendations made by the Ministry of Health, among them the use of antiretroviral drugs in pregnant and newborn and no breastfeeding.[11]

Concerning the newborn, it is recommended the administration of zidovudine (AZT) oral solution still in the birth room immediately after the immediate care or the first four hours of life and for the next four weeks. In HIV-exposed infants whose mothers did not use antiretrovirals (ARVs) during the prenatal or have lower viral load than 1.000 copies/mL documented in the last trimester of pregnancy should be added three doses of nevirapine (NVP) oral solution the prophylaxis scheme, with the 1st dose administered in the first 48 hours of life, the 2nd dose 48 hours after the first, and the 3rd dose 96 hours after the second. In addition, the baby needs to follow up on a referral service for children exposed to HIV.[4] It is recommended that even the uninfected children, conduct annual monitoring at the referral center by the end of adolescence. That statement lies in the fact of not knowing the possible effects of exposure to ARV prophylactic medium and in the long run.[13]

Regarding pregnant women and childbirth, if the diagnosis was made early and the mother has good adherence to the use of prophylactic ARVs during pregnancy, usually BIOVIR + KALETRA, the most suitable type of birth will depend mainly on the mother's health status and viral load, where it is expected that it will be undetectable.[3] Still, all HIV-positive woman during childbirth should receive intravenous AZT at the beginning of parturition until the baby is born. For pregnant women with cesarean indication, the consumption of AZT should be three hours prior to surgery until birth.[10]

Given the possibility of prevention, it is expected that there is a decrease in infection rates through vertical transmission.[3]

Thus the central interest in this study is to raise and characterize the incidence of vertical HIV transmission in a 10-year period among pregnant women accompanied by a referral service.

Raising and characterizing the incidence of vertical HIV transmission among HIV-positive pregnant women who became pregnant from 2004 to 2013 registered in a regional referral center for treatment of STD, AIDS and Viral Hepatitis.

METHOD

It is a descriptive documentary study of a quantitative approach, performed at the Clinic School (AMBES) of Passos - MG, a regional referral center for treatment and prevention of STDs, AIDS and Viral Hepatitis.

In the descriptive study, the description is made by means of data collection in order to get to the elaboration of profiles, scenarios, percentages, averages and pointers.[14]

It is a documentary research that is characterized by being a source of data collection that is restricted to documents. This collection can be done at the time the event or phenomenon occurs, or after it.[14]

For this, we used data documented in the records of women who were seropositive for HIV, registered in AMBES, who became pregnant during the period from 2004 to 2013, without exclusion criteria.

It is noteworthy that every pregnancy assisted by reference service during this period of ten years (2004-2013) was analyzed in isolation, as each poses potential risk to child transmission. In view of this, the study universe consisted of all 33 pregnancies that were followed by AMBES during the study period.

Data collection was conducted from April to October 2014. To this end, we used a form prepared based on data available in the medical records of pregnant women and newborns, which was constituted as a roadmap for documentary research. This form contained data on diagnosing of pregnancy and positive serology, prophylaxis performed in pregnancy, maternal adherence, CV and $CD4^+$ values before birth, mode of birth, socio-economic descriptors as well as prophylaxis performed in the newborn.

Data analysis was based on a quantitative approach, in order to raise and characterize cases of vertical HIV transmission. This approach provides for the measurement of variables previously established, in order to verify and explain their influence on other variables, by analyzing the frequency of incidence of statistical correlations. Thus, the researcher can describe, explain and predict.[14]

Data were obtained based on the consultation of medical records, they were compiled and organized into tables, to interpret and simple descriptive statistical analysis thereof.

The project was approved by the Research Ethics Committee (CEP) of the Higher Education Foundation of Passos (HSPA) with CAAE: 28399314.8.0000.5112 and the report number: 566 942.

RESULTS AND DISCUSSION

During these approximate ten years (from 2004 to 2013), 25 women became pregnant and / or had their children after they have been infected with HIV. However, among these 25 women, seven had more than one pregnancy, and six had two pregnancies and the other three.

It thus has a total of 25 women and 33 pregnancies, which corresponds to 100% of pregnancies that were followed by the reference service from January 2004 to December 2013.

It was observed that 80% of women (20/25) had incomplete primary education, 88% (22/25 women) had low family income, 76% (19/25 women) were "housewives" and also 76% (19/25 women) were single.

The age of the women ranged from 16 to 39 years old, with an average of 28,4 years old, while the age of seropositivity diagnosis for HIV ranged from 15 to 37 years old, with an average of 25,5 years old.

Among the 33 pregnancies, 60,6% (20/33) were women who knew their positive HIV status before pregnancy. It is important to note that vertical transmission has not occurred in this group, for the prophylaxis was started at the right time.

On the other hand, 39,4% (13/33 pregnancies) were women who obtained positive diagnosis for HIV during prenatal care. Among them, 53,8% (seven/13 women) were diagnosed in the second quarter, 38,5% (five/13 women) in the third, and 7,7% (one/13 women) in the childbirth room.

Antiretroviral therapy (ART) prophylaxis for pregnant women who were diagnosed during prenatal care (13/33 pregnant women) start just gave up in the second or third trimester of pregnancy, since none of them was diagnosed in the first quarter. Thus, seven women began ART during the second quarter, five in the third, and the other at the pre-birth room.

Women who were already accompanied by service before becoming pregnant (20/33 pregnant women), or were already using ARVs from pre-conception cycle, that began prophylaxis early in the second quarter (14 weeks), which is the ideal time.[3] A relevant fact observed in this group was that 85% of women (17/20) were shown to have better adherence to treatment during pregnancy when compared to the period before and after the pregnancy.

Since a pregnant woman was diagnosed only in the birth room (one/33 pregnant women) and she did not make use of prophylactic ARVs during pregnancy. It thus has a total of 32 pregnant women who used HAART during pregnancy, and the prescribed ARVs as prophylaxis were BIOVIR + KALETRA 21/32 for pregnant women, BIOVIR + NEVIRAPINE for seven/32, and the other four to AZT/32.

The delivery mode of choice for most (29/33 pregnant women), which corresponds to 88%, was the cesarean section, and the other four pregnant women had their births per normal way, which corresponds to 12%. It is noteworthy that, for the choice of mode of delivery, the last exam CV and $CD4^+$ performed during pregnancy were collected, on average, six weeks before the birth, in 32 of the 33 pregnant women followed by the service, since the other pregnant, these tests have not been conducted since the diagnosis of HIV seropositivity was conducted in the birth room.

Among the 29 pregnant women who received cesarean, one was diagnosed in the birth room, case cited above, and CV and $CD4^+$ tests were not performed. Therefore, the following data refer to 28 of the 29 pregnant women who received cesarean sections and carried out the tests $CD4^+$ and CV in the last trimester of pregnancy. Among these 28 women, the maximum CV detected was 21.947 copies/mL, collected three months before the birth, and the minimum CV was undetectable, collected 20 days before birth. In general, the CV values were undetectable in 60,7% of patients (17/28), ie ≤ 50 copies/ml, which is the threshold for detection; 17,9% (five/28 pregnant women) values were ≤1000 copies/mL; 10,7% (three/28 pregnants) were ≤10.000 copies/mL; 3.6% (once/28 pregnants) were ≤20.000 copies/ml and 7,1% (two/29 pregnants) values were ≤30.000 copies/ml, none of which exceeded the CV value ≥40.000 copies/ml. In this group of 28 pregnant women who received cesarean sections and carried out the tests $CD4^+$ and CV before delivery, $CD4^+$ values ranged from 71 to 1611 cells/uL, with a mean of 633 cells/uL.

Among the four women who had their births a normal way, the maximum CV detected was 214 copies/mL, collected eleven days before birth, and the values of the other three were undetectable, which is desirable for this type of birth. The three women who achieved an undetectable viral load in the last trimester of pregnancy had their collected exams, 30, 35 and 60 days before birth. In this group of four women who had their births a normal way, $CD4^+$ values ranged from 108 to 1043 cells/uL, with an average of 592 cells/uL.

The Ministry of Health recommends that elective cesarean section in order to reduce vertical transmission, is indicated for pregnant women in late pregnancy (after 33-34 weeks) have CV unknown or greater than 1.000 copies/mL. When the CV was less than this amount, the mode of delivery will be defined by criteria exclusively obstetric.[3]

Concerning preventive measures applicable to the birth period and postpartum, such as intravenous AZT in the mother before and during birth and administration of AZT oral solution to the newborn in the immediate postpartum period, they were properly carried out. Regarding the use of ARVs during the first weeks of the newborn's life was

focused guidance to all 33 pregnant women followed by the service. Please note that the ARV prophylactic oral solution was dispensed by the reference service for all 33 children.

In the group of 13 women who knew their HIV status during prenatal care, there was a case of vertical transmission of HIV, which corresponds to 3% (1/33) of all pregnancies accompanied by service, and 8% (1/13) of pregnancies which women obtained the diagnosis of HIV+ during prenatal care.

She is a 33 year old pregnant woman who was diagnosed HIV-positive for HIV in the third quarter (the seventh month) from her second pregnancy. The beginning of prophylactic antiretroviral therapy was initiated 21 days after the diagnosis has been completed (eight months) because the mother did not attend the first visit that had been scheduled. The scheme prescribed by the doctor was BIOVIR + KALETRA as said.[3] The patient made continuous use of antiretroviral drugs for a month, so that the CV values and CD4+ collected eleven days before birth were 214 and 980, respectively. Although it is a desirable CV undetectable to the mode of birth is normal; this was chosen since 214 is an acceptable CV value and presents a very low risk of vertical transmission.[3]

It is observed that the pregnant woman, since pregnancy, did not possess a good treatment adherence and showed absent with regard to her responsibilities concerning the treatment and development, since she began her late prenatal and missed a query in reference service after the diagnosis of HIV+.

Concerning the newborn, AZT oral solution was administered in the first two hours of life, with the continued administration of that prescribed for the next six weeks, since this was the approach recommended that moment.[3] One cannot say that the mother followed this recommendation, as it is not possible to know if she followed the guidelines for not breastfeeding.

However, although there is only one case of vertical transmission during the study period, the reference service where the study was conducted keeps track of a total of eight patients who were infected through vertical transmission (including the case mentioned above), and the diagnosis of the majority of maternal seropositivity (seven patients) was done after the child's birth and prophylactic measures were not carried out.

In reference unit where this study was conducted, it was observed that the rate of vertical transmission of HIV was 3% during the study period, ie, there was a case of vertical transmission among the 33 pregnancies that were followed by service. However, when compared with the group of 13 women whose pregnancies achieved the diagnosis of HIV+ only during the prenatal period, this ratio is 8%.

It can see that all preventive, appropriate recommendations for the timely that remained were followed by doctors for the secondary reference unit and the maternity ward. What is not known is how the mother, then mother, contributed to the prophylactic success, since it was essential for the follow-up of preventive measures such as the use of oral ARVs at home by the pregnant woman herself and later offering AZT oral solution for the child during the first six weeks of life, that was the approach recommended at the time, and, finally, not breastfeeding.

It calls attention to the case of vertical HIV transmission occurred in only woman subjected to vaginal birth with detectable CV, although this conduct was within the guidance of the Ministry of Health on the possibility of vaginal birth in women with viral load below 1.000 copies/mL.[3]

The other seven children, accompanied by service today, which were infected with HIV through vertical transmission, did prophylaxis because they were born without their mothers knew of the positive diagnosis for HIV, which confirms the urgent need for actions to promote the capture early pregnancies for prenatal services, along with the increasing availability of HIV testing for pregnant women, as well as the supervision of the shares.

On the other hand, most pregnancies accompanied the service was women who knew their HIV status before pregnancy, and notes that vertical transmission has not occurred in this group, for the prophylaxis was started at the right time. This data reinforces the very real possibility that there is to eliminate vertical transmission of HIV (less than 1% transmission), through all prophylactic interventions recommended by the Ministry of Health.[4]

In this regard, studies point out that pregnancy can be considered as potentiating factor of adherence to treatment.[15] It was observed that 83% of women were shown to have better adherence to treatment during pregnancy. In light of this fact, the advice to pregnant and postpartum women regarding prophylactic measures should be clear and objective so that they can be encouraged and supervised.

It was observed also that there was a considerable number of pregnancies (13/33) in which the mother received the diagnosis of HIV+ only during the prenatal period, and there was a case of vertical transmission in this group (case cited above). In this context, it is noteworthy that none of these 13 pregnant women got the diagnosis in the first trimester, which is the ideal and enables initiating prophylaxis at the right time (14 weeks gestation).[3]

It is emphasized that the case of vertical transmission, as quoted in the article, took place in a pregnant woman who received the diagnosis of HIV+ in the seventh month of pregnancy. This fact shows that late diagnosis difficult and/or reduces the success of prophylaxis.

It must strengthen the health teams with the procedures recommended by the Ministry of Health, as well as provide a means for all pregnant women to do the test, both pregnancy and anti-HIV, in the first trimester of pregnancy.

Many women still come to motherhood without having done the prenatal properly, that is, without having done all the tests recommended by the MoH in the first quarter of pregnancy.[16] For them the unique opportunity to access the rapid test HIV and, where necessary, the preventive measures, it is the time of birth and/or puerperium.[17]

So, considering that postnatal transmission contributes substantially to child transmission of HIV, it is appropriate to carry out the advice of postpartum women, regardless of their HIV status, postpartum. During this period, the necessary information about prevention of this form of transmission should be discussed and recorded, and

facilitate testing for HIV in view of prevention of postnatal MTCT of HIV.[4,17] Studies show a high acceptance and viability the rapid HIV test at birth and in the postpartum.[18]

However, one must review the vulnerabilities of postpartum mother/and guide the prevention of HIV infection after birth, particularly with the use of condoms, reducing the possibility of maternal infection during lactation, since the risk of transmission HIV virus to the child is greatest when maternal infection is acute during lactation. This fact is due to a quick increase in viral load and fall in $CD4^+$ T-lymphocyte count in the acute phase of HIV infection.[4] It should be noted also that it is necessary to provide timely and adequate treatment to the sexual partners of those women.[19]

Thus, to eliminate vertical transmission of HIV, it is imperative to ensure comprehensive care for women and their families, from pre-conception to postnatal cycle.[17]

Unborn child is a being of rights, but too fragile to exercise them. Given this vulnerability, it is considered as an ethical precept that all adults, especially health professionals, are committed to identify, warn and act for the protection and defense of children's health in the context of vertical transmission of HIV.[20]

CONCLUSION

The study made it possible to raising and characterizing the incidence of HIV transmission in a unit of reference, indicating possibilities to eliminate this type of transmission. For this, it is necessary comprehensive care to women and their families, from pre-conception cycle until postnatal, promoting family planning, early diagnosis of pregnancy and adequate care during the prenatal, birth and postpartum.

Although the delayed diagnosis obstructs the prevention, every woman should be tested for HIV before birth. It must be strengthened with professionals the procedures recommended by the Ministry of Health to reduce the rate of vertical transmission of HIV, as well as provide a means for all pregnant women still do the test in the first trimester of pregnancy.

The advice to women, pregnant and postpartum women, in relation to preventive measures, should be clear and objective so that they can be supervised, as they are fundamental for the monitoring of prophylactic measures and, consequently, the health and well-being of the child.

In this sense, it is fundamental that they are developed systematic and coordinated strategies between referral service, maternity and primary health care.

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